Dynamic Science Data Services for Display, Analysis and Interaction in Widely-Accessible, Web-Based Geospatial Platforms, Phase II

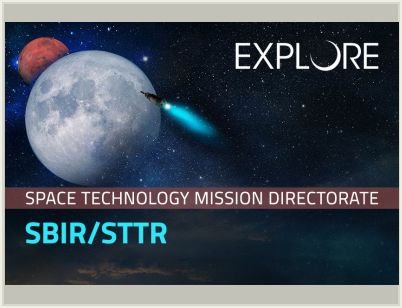
Completed Technology Project (2008 - 2010)

Project Introduction

TerraMetrics, Inc., proposes a Phase II R/R&D program to implement the TerraBlocks

TM

Server architecture that provides geospatial data authoring, storage and delivery capabilities. TerraBlocks enables successful deployment, display and visual interaction of diverse, massive, multi-dimensional science datasets within popular web-based geospatial platforms like Google Earth and NASA World Wind. TerraBlocks is a wavelet-encoded data storage technology and server architecture for NASA science data deployment into widely available web-based geospatial applications. The TerraBlocks approach provides dynamic geospatial data services with an emphasis on 1) server and data storage efficiency, 2) maintaining server-to-client science data integrity and 3) offering client-specific delivery of large Earth science geospatial datasets. The TerraBlocks approach bridges the gap between inflexible, but fast, pre-computed tile delivery approaches and highly flexible, but slower, map services approaches. The pursued technology exploits the use of a network-friendly, wavelet-compressed data format and server architecture that extracts and delivers appropriately-sized blocks of multi-resolution geospatial data to geospatial client applications on demand and in interactive real time. The Phase II project objective is to provide a complete and fully-functional prototype TerraBlocks data authoring and server software package delivery to NASA and simultaneously set the stage for commercial availability. The Phase III objective is to commercially deploy the TerraBlocks technology, with the collaboration of our commercial and government partners, to provide the enabling basis for widely available third-party data authoring and web-based geospatial application data services.



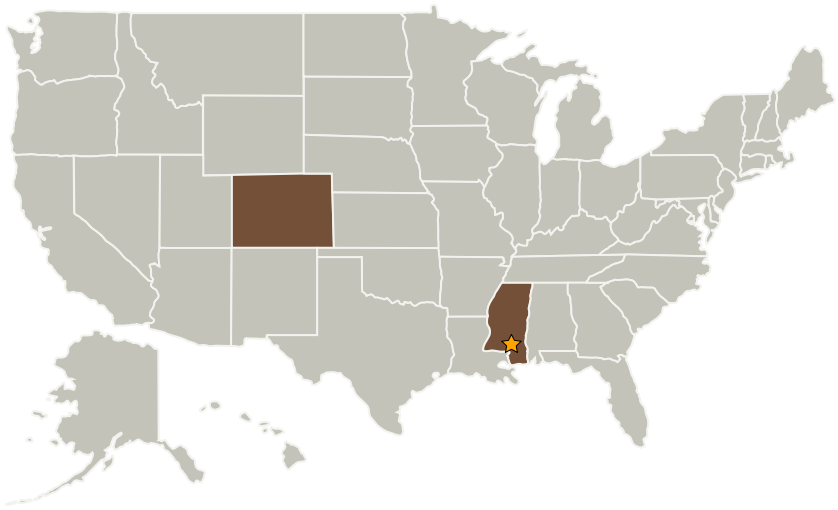
Dynamic Science Data Services for Display, Analysis and Interaction in Widely-Accessible, Web-Based Geospatial Platforms, Phase II

Table of Contents

Dynamic Science Data Services for Display, Analysis and Interaction in Widely-Accessible, Web-Based Geospatial Platforms, Phase II

Completed Technology Project (2008 - 2010)

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
TerraMetrics, Inc.	Supporting Organization	Industry	Littleton, Colorado

Primary U.S. Work Locations	
Colorado	Mississippi

Project Transitions

February 2008: Project Start

February 2010: Closed out

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.4 Information Processing
    - TX11.4.2 Intelligent Data Understanding